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January 15, 2016

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Ms. Margaret Gielniewski
Mr. Pablo Valentin
Ms. Leslie Patterson
Mr. Syed Quadri
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USEPA Region 5 – SR6J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

RE: Response to USEPA Review of the Response to the October 23, 2015 USEPA Comments on the Vapor Intrusion Decision Flowchart
The Peoples Light and Coke Company, North Shore Gas Company, and Wisconsin Public Service Corporation

Please find enclosed response to USEPA's December 17, 2015 comments on the *Vapor Intrusion Investigation Decision Matrix, Multi-Site Former MGP Program* for The Peoples Light and Coke Company, North Shore Gas Company, and Wisconsin Public Service Corporation.

If you have any questions, please don't hesitate to contact me at (312) 240-4569 or nmprasad@integrysgroup.com.

Regards,

Naren M. Prasad, P.E., MPH
Senior Environmental Engineer

Enclosures as noted

cc: Bruce Ramme, Brian Bartoszek, Frank Dombrowski (electronically) – WBS
Paul Lake – IEPA
Cheryl Bougie, Kristin DuFresne, Kevin McKnight, Tom Hvizdak - WDNR
Mike Kierski – Exponent
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Environmental Engineer – Environmental
WEC Business Services, LLC
200 East Randolph Drive – 24th Floor
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January 15, 2016
(1515/1984)

RE: DRAFT - Response to USEPA Review of the Response to the October 23, 2015 USEPA Comments on the Vapor Intrusion Decision Matrix (flowchart)
The Peoples Light and Coke Company, North Shore Gas Company, and Wisconsin Public Service Corporation

Dear Mr. Prasad:

Natural Resource Technology, Inc. (NRT) is providing for your use this letter response to USEPA comments dated December 17, 2015 on the Vapor Intrusion Investigation Decision Matrix ("flowchart"), Multi-Site Former MGP Program (NRT, November 23, 2015) for The Peoples Light and Coke Company (PGL), North Shore Gas Company (NSG), and Wisconsin Public Service Corporation (WPSC).

For ease of review, USEPA comments are presented below in *italics*, followed by NRT's recommendation for WEC Business Services' (WBS) responses.

Previous Comments

1. ***Original Comment #20:*** *If there is still a significant source present, then source removal or remediation may be needed in addition to just ICs for both current and future VI pathways.*

   WBS Response to Comment #20: *Per statutory requirements, source material will be remediated, to the extent practicable, as part of soil and groundwater remedial options. Source removal or remediation may be required to address current pathways; however, future VI pathways will be addressed through ICs.*

   Additional Caveat Relating to the WBS Response to Comment #20: *It is not consistent with USEPA's 2015 VI Guidance or the NCP to use a blanket default institutional control (IC) approach for the future VI pathway in a generic flowchart process, without including flexibility for implementing a combination of remedial alternatives. For this reason, it is recommended that the Box for End Point 3 under "Future" read as follows:*

   > *"Future - Quantify risks using exterior and subslab data to determine the need for ICs. If future risks exceed targets, VI pathway may be managed through a combination of ICs, building mitigation, source remediation, or long-term monitoring, as practicable for the conditions at each site."*

   This approach is captured in USEPA's 2015 VI Guidance, which states in Section 3.3:

   > *"The NCP expresses the preference for response actions that eliminate or substantially reduce the level of contamination in the source medium to acceptable levels, thereby achieving a permanent remedy. In the case of vapor intrusion, such a response action would generally entail eliminating or substantially reducing the level of vapor-forming chemicals in the subsurface (e.g., in contaminated groundwater, soil, and/or sewer lines) via treatment or removal (i.e., "remediation").*

"This approach is further explained in the NCP (40 CFR 300.430{a)(l)(iii)(D)) by the following language:

> *"EPA expects to use institutional controls such as water use and deed restrictions to supplement engineering controls as appropriate for short- and long-term management to prevent or limit exposure to hazardous substances, pollutants, or contaminants. Institutional controls may be used during the conduction of the remedial investigation/feasibility study (RI/FS) and implementation of the remedial action and, where necessary, as a component of the completed remedy. The use of institutional controls shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of ground waters to their beneficial uses) as the sole remedy unless such active measures are determined not to be practicable, based on the balancing of trade-offs among alternatives that is conducted during the selection of remedy."*

WBS Response: There appears to be a misunderstanding between WBS and USEPA regarding under which situations intuitional controls (IC) will be applied. There also appears to be a misunderstanding of how the ICs that WBS is proposing will trigger additional evaluation and potential remedial action, depending on future land and/or building use modifications.

If remedial investigation (RI) vapor intrusion (VI) evaluations and the resulting risk assessment indicate there is an unacceptable risk to building occupants based on current building use, then remedial actions, including source material remediation, soil remediation, groundwater remediation, engineered controls, and/or building control technologies will be evaluated in the FS.

If RI VI evaluations and the resulting risk assessment indicate there is not an unacceptable risk to building occupants based on current building use, or that the VI pathway is incomplete (no building is present), then ICs will be proposed in the FS, which will trigger additional evaluation and potential remedial action, as stated in Note 8 of the Decision Matrix (as modified to address previous USEPA comment [USEPA Specific comments 17 dated October 23, 2015])

> "ICs may apply to existing buildings with no significant current VI pathway. In the event of modifications to building structure/use, GW or capillary fringe conditions, and/or land use modifications, the VI pathway may need to be re-evaluated. ICs may also apply to existing open space/vacant land with detections of MGP VI COPC in GW and/or vadose zone soil to address potential future conditions. Additional site-specific VI evaluations may be completed on these open/vacant spaces to rule out the need for ICs."

For areas of the site where there is not an unacceptable risk to building occupants or no current building present, source material and affected groundwater may be remediated for the purpose of addressing statutory requirements or media-specific ARARs. However, additional source material remediation, soil remediation, or groundwater remediation will not be implemented for the exclusive purpose of mitigating a potential future VI risk to buildings that are currently non-existent and unplanned. This approach does not contradict the NCP (40 CFR 300.430{a)(l)(iii)(D)) or USEPA's 2015 VI Guidance, therefore the Decision Matrix has not been modified to address this USEPA comment.

2. *Based on the above approach, it is further noted that the WBS response to Comment #13 also requires some additional clarification. The original comment and WBS response is included below for your convenience:*

   Original Comment 13. *Step 3 indicates that if current indoor air concentrations < VISIs, the future VI pathway is managed through ICs. Also, if GW > VISLs but soil gas <VISLs, the future VI pathway can be managed through ICs. However, remedial action should not be limited to ICs and should consider other*

options (e.g., building mitigation, source removal, long-term monitoring), depending on the site. Refer to the flowchart for specific edits.

WBS Response to Comment 13: *ICs will be used to mitigate future hypothetical structures or changes in use. As discussed during our August 5, 2015 meeting, it is not feasible to identify and evaluate all the potential changes to building use or building construction for all hypothetical future use scenarios. The magnitude of potential future risk is highly variable and dependent on the type of building, depth of foundation/basement, and proposed land use.*

Additional Caveat Relating to the WBS Response to Comment #13: *It is agreed that in many cases, it is not feasible to identify and evaluate all the potential changes to building use or building construction for all hypothetical future use scenarios. However, as was recently demonstrated at the Crawford MGP site (Parcel K), there are occasions where there is a reasonable expectation that future (and possibly imminent) site development will occur, and where remedial activities beyond simple ICs may be appropriate to address VI. An October 16, 2015 NRT/WEC correspondence concerning Crawford Parcel K subsequently stated that a soil vapor investigation would be implemented in three areas on Parcel K and concluded the following:*

> *"Once PGL has established a conceptual design far the site redevelopment, a remedy (either before or during construction to address all the known risks will be developed and shared with the USEPA. PGL currently anticipates the use of a combination of "hotspot' soil removal, engineered and/or building control technologies (as need), institutional controls such as groundwater use restriction and restricted covenants such as industrial use restriction that would be consistent with a ROD. At this time, PGL recognizes USEPA comments and will address them at each phase of the potential redevelopment process. "*

Conclusion: The above descriptions and Crawford Parcel K example highlight the site-specific evaluation approach that is needed to address potential future property uses, potential risks, and appropriate "practicable" remedial alternatives. NRT/WEC appropriately noted and acknowledged the need for more VI assessment at Crawford Parcel K, and that the remedy might involve a combination of hot spot removals, engineering controls, and restrictive covenants. Please apply this same approach to all MGP sites and refrain from assuming that future VI pathways at all MGP sites will be addressed solely through ICs.

WBS Response: Refer to Response to USEPA Comment 1 (Additional Caveat Relating to the WBS Response to Comment #20). Regarding the Crawford Parcel K example referenced in the USEPA comment, removal action at Parcel K is currently being conducted based on a known future land use and imminent construction of a building. The proposed building and surrounding land will function as an excavation training facility. The removal action is required to mitigate the unique exposure pathway resulting from an excavation training facility. It should also be noted that the proposed remedy as described above was not selected exclusively to mitigate the potential VI pathway.

WBS agrees that a comprehensive site remedy to address all affected media and completed pathways may include a combination of soil remediation, groundwater remediation, engineering and/or building control technologies, and institutional controls. WBS disagrees with the need to perform additional soil or groundwater remedial action for the exclusive purpose of mitigating a potential future VI risk to buildings that are currently non-existent and unplanned. The Decision Matrix has not been modified to address this USEPA comment.

3. *Additional note on ICs for Future VI Risks: Institutional controls that are proposed for managing future vapor intrusion-related risk must contain provisions to ensure compliance with the controls, and a*

notifications process to trigger appropriate review and oversight of future land use scenarios that could potentially include the need for engineering controls or mitigation systems.

WBS Response: Noted

Additional Requests:

4. *Replace the word "shallow GW" in shape number 2 with "in GW at the water table"*

WBS Response: Text modification has been completed, as requested.

5. *Remove the word "shallow" from shape boxes 15 and 17 and replace it with "water table".*

WBS Response: Text modification has been completed, as requested

6. *To capture the flow path for uninvestigated MGP structures, the following should be added to shape numbers 2 and 4: "uninvestigated MGP structures present near or beneath a building".*

WBS Response: The phrase "uninvestigated former structures" has been added to boxes 2 and 4. The phrase "near or beneath a building" was not added to box 2 because this is an initial screening step to understand if there is a potential VI risk. The proximity of uninvestigated structures to buildings is not relevant at this step as it may result in prematurely reaching End Point 1. All uninvestigated structures, regardless of proximity to buildings, warrant investigation and/or institutional controls.

The phrase "near or beneath a building" was not added to box 4 because the box already contains text stating "Is a building present within 30 feet."

7. *Key to Flow Chart: In the definition for MGP Residual, remove the D in DNAPL.*

WBS Response: Text modification has been completed, as requested

8. *It is not clear in NRT's response to EPA comment #4 how VI COPCs in vadose zone soils are addressed on the flow chart. In the flow chart, "vapor intrusion COPCs in vadose zone soils" are specifically brought up in shape #2, follow through Shape #4 (covered under the term "MGP- affected media), but then drop out after shape #11if it is not associated with "MGP Residuals or uninvestigated former MGP Structures". To capture this flow path, the following should be added to shape numbers 9 and 11: "are MGP COPCs detected in vadose zone soil within 5 ft of a building".*

WBS Response: The phrase "MGP VI COPCs Detected in Vadose Zone Soil" was added to boxes 9 and 11. The phrase "within 5 ft of a building" was not added to boxes 9 and 11 because the boxes already contain text stating "near or beneath building."

NATURAL RESOURCE TECHNOLOGY

Please contact the undersigned if you should have any questions regarding the content of this letter.

Sincerely,

NATURAL RESOURCE TECHNOLOGY, INC.

Brian Hennings, PG
Hydrogeologist

Jennifer Hagen, PE
Principal Engineer

Enc: Figure 1 – Vapor Intrusion Investigation Decision Matrix (January 15, 2016)

For distribution to:

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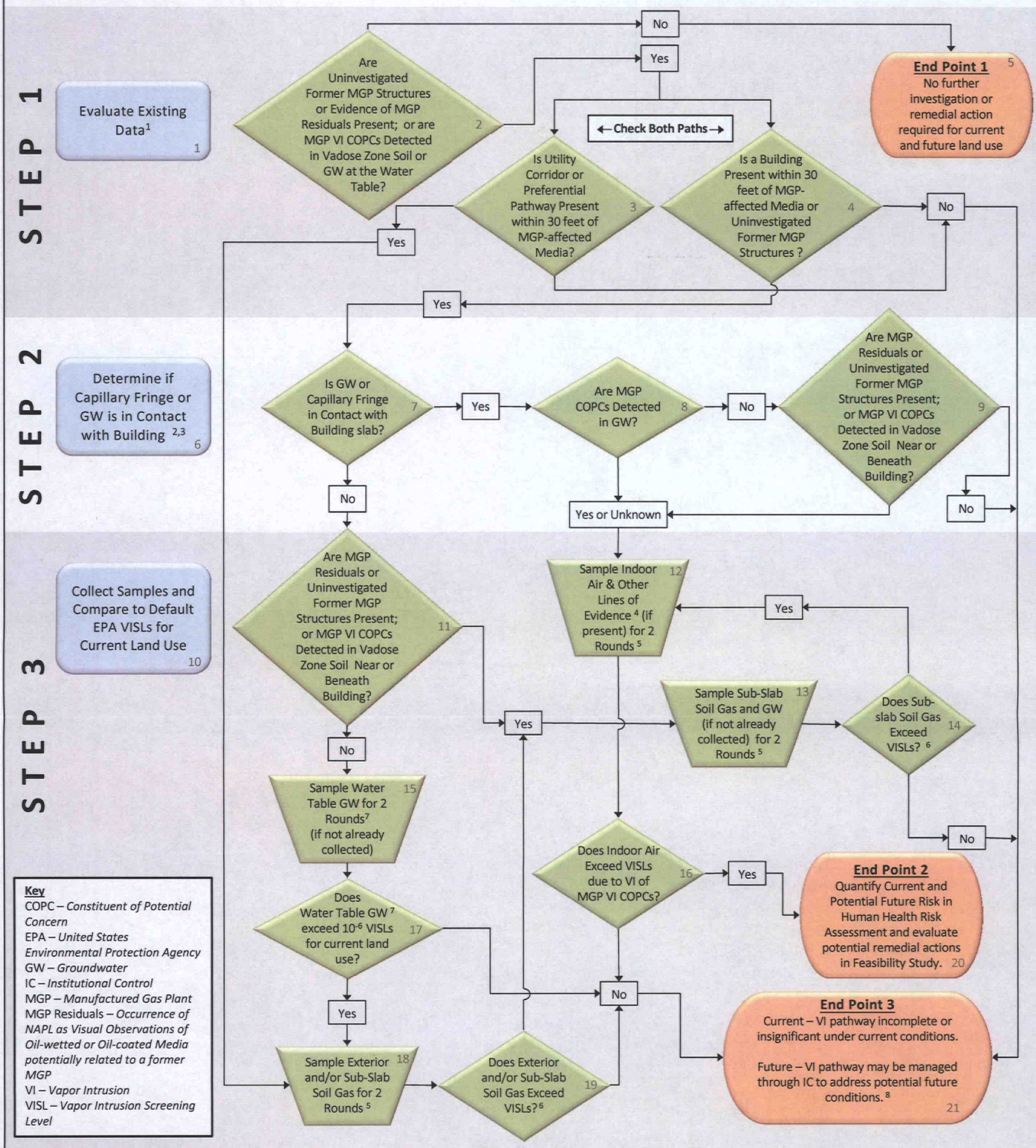
[File:\1515 VI Flowchart RTC 160115.doc]

Figure 1 – Vapor Intrusion Investigation Decision Matrix (January 15, 2016)

North Shore Gas; Peoples Gas, Light and Coke; and Wisconsin Public Service Corporation

Multi-Site MGP Program



Key

COPC – *Constituent of Potential Concern*
EPA – *United States Environmental Protection Agency*
GW – *Groundwater*
IC – *Institutional Control*
MGP – *Manufactured Gas Plant*
MGP Residuals – *Occurrence of NAPL as Visual Observations of Oil-wetted or Oil-coated Media potentially related to a former MGP*
VI – *Vapor Intrusion*
VISL – *Vapor Intrusion Screening Level*

Notes

1: If previously collected GW and/or soil data exist, it should be used in this evaluation

2: Reference Johnson and Ettinger *Soil-Dependent Properties for The Vapor Intrusion Model, First Tier Assessment (EPA 530-D-02-004)* for guidance on estimating the height of the capillary fringe.

3: When determining if a building slab or utility corridor is in contact with the capillary fringe, the separation distance between the capillary fringe and the building will be evaluated using the lowest level of the building (i.e., basement if present) and the seasonal high water table beneath the building

4: Examples of "Other Lines of Evidence" could include sampling vapor in sumps or crawlspaces and/or sampling sub-slab vapor as supporting data to assist in evaluating source of indoor air concentrations, as appropriate.

5: One round should be collected during the heating season (November 15 through March 15) and one round should be collected during non-heating season to evaluate seasonal variation

6: If any sub-slab soil gas sample result is greater than a cancer risk of 10^{-6}, the need for indoor air sampling will be evaluated. If sub-slab sample results fall within the acceptable cancer risk range (10^{-4} to 10^{-6}) then professional judgment shall be used to determine if indoor air sampling will be completed. If indoor sampling is not proposed, rationale for the decision will be provided to USEPA for review and approval.

7: MGP VI COPC GW plume should be delineated within critical distance (30-feet) of building. Use lines of evidence to estimate GW quality and potential for VI at building

8: ICs may apply to existing buildings with no significant current VI pathway. In the event of modifications to building structure/use, GW or capillary fringe conditions, and/or land use modifications, the VI pathway may need to be re-evaluated. ICs may also apply to existing open space/vacant land with detections of MGP VI COPC in GW and/or vadose zone soil to address potential future conditions. Additional site-specific VI evaluations may be completed on these open/vacant spaces to rule out the need for ICs.

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